

No. 640,187.

Patented Jan. 2, 1900.

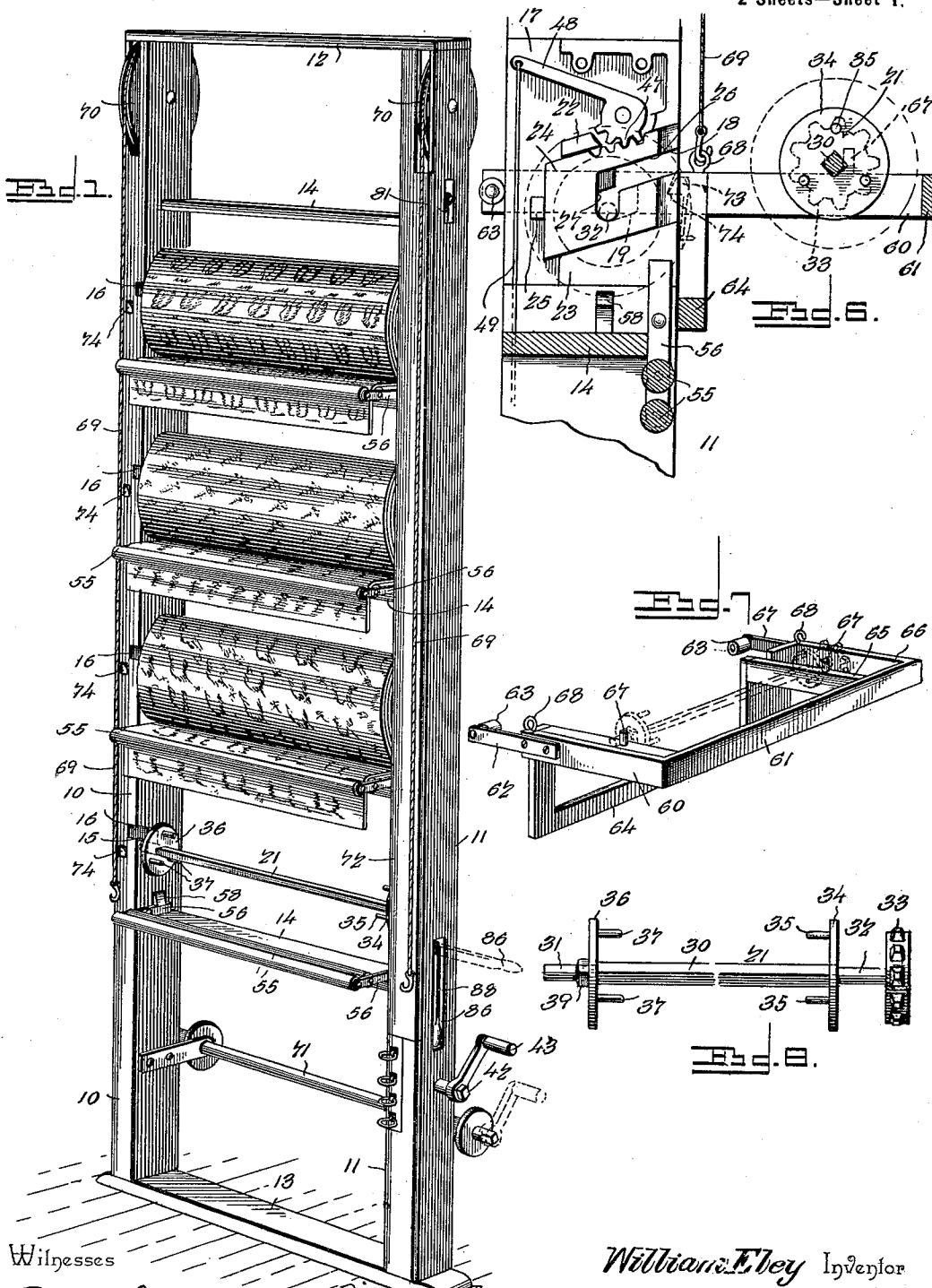
W. ELEY.

CARPET DISPLAY RACK.

(Application filed Sept. 22, 1899.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
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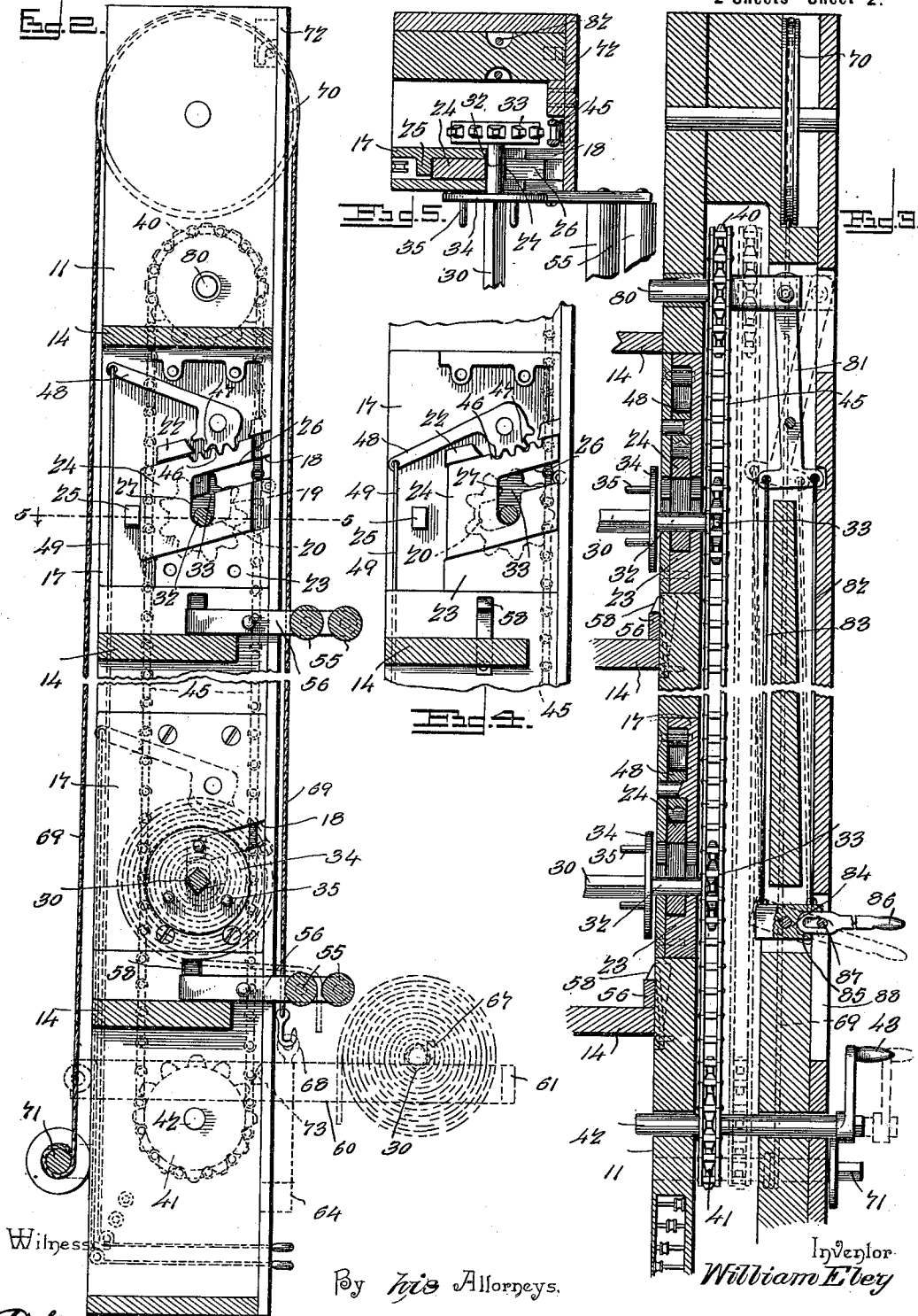
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Cash & Co.

UNITED STATES PATENT OFFICE.

WILLIAM ELEY, OF SUFFOLK, VIRGINIA.

CARPET-DISPLAY RACK.

SPECIFICATION forming part of Letters Patent No. 640,187, dated January 2, 1900.

Application filed September 22, 1899. Serial No. 731,291. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ELEY, a citizen of the United States, residing at Suffolk, in the county of Nansemond and State of Virginia, have invented a new and useful Carpet-Display Rack, of which the following is a specification.

This invention relates to display-racks in general, and more particularly to that class designed for holding and displaying fabrics in a roll, such as carpet, mattings, &c.

The object of the invention is to provide a reel with respect to which the carpet or other fabric may be readily applied and removed and in connection therewith to produce a rack adapted to hold a plurality of these reels in such a position that the fabric may be readily unrolled and rerolled and in which the reels may be readily thrown into and out of operative relation with their rotating mechanism.

A further object of the invention is to provide an elevator with which the rolls of carpet upon the reels may be readily placed in their bearings upon the frame and means for operating the elevator.

Other objects of the invention will be apparent from the following description.

In the drawings forming a portion of this specification and in which similar numerals of reference designate like and corresponding parts in the several views, Figure 1 is a perspective view showing a rack having a number of reels provided with carpets and also showing a reel empty, the guide-rollers being in their extended positions. Fig. 2 is a shortened vertical section of Fig. 1, taken transversely of the reels and looking to the right, the face-plates of the reel-bearings being removed and the position of the elevator being shown in dotted lines. Fig. 3 is a vertical section of Fig. 2, taken through the reel-shaft, parts being shown in elevation. Fig. 4 is a detail view showing the bearing-shifting mechanism when in a position to hold the reel-sprockets in engagement with the sprocket-chain. Fig. 5 is a section on line 5 5 of Fig. 2. Fig. 6 is a detail section taken through and transversely of a reel-shaft and showing the operation of the elevator and the location of the adjacent reel-bearing just previous to its adjustment to receive the reel. Fig. 7 is a perspective view showing the elevator with

an empty reel thereon. Fig. 8 is a side elevation of a reel.

Referring to the drawings, this construction comprises a rack proper and a plurality of reels adapted to be applied to the rack and to be held rotatably therein, the rack proper consisting of an upright 10 and a second upright 11, having top and bottom braces 12 and 13 and intermediate cross-pieces 14. The upright 10, between each pair of cross-pieces, has a bearing 15, with which communicates an inwardly and downwardly ranging slot 16, through which one end of the reel is introduced to the bearing. The upright 11 is in the form of a casing, and in the inner face of this upright and between each pair of cross-pieces is fixed a plate 17. This plate has a rearwardly-declining slot 18, at the rear end of which are a downward extension 19 and a further rearward extension 20, which latter forms a bearing which coöperates with the corresponding slot extension or bearing 15 to receive the ends of the shaft 21 of a reel. It will be noted that the portion 20 of the slot coöperates with the portion 19 to form a bearing-surface somewhat greater than twice the diameter of the adjacent end of the reel-shaft, so that said shaft may be drawn forwardly into the portion 19 and then raised to the portion 18 and drawn outwardly through the front of the slot. To thus shift the end of the shaft 21 along the extended bearing, outwardly-directed lugs 22 and 23 are formed upon the plate 17 and have their adjacent faces beveled downwardly and rearwardly to receive and hold a correspondingly-beveled follower 24, whose edges are disposed against these lugs. The rearward movement of the follower 24 is limited by a lug 25 and stops the follower at that point to lock the reel-shaft in its bearing. This locking action is secured by forming a rearwardly and downwardly ranging slot 26 in the follower 24, which coincides with the slot 18 and has a downward extension 27 adapted to register with the extension 19 of the slot 18 when the follower is in its forward position and to be thrown out of register therewith when the follower is in its rearward position. Thus when the follower is in its forward position the trunnions or bearing ends of the reel-shaft may be passed into the slots 18 and 26 and the slot 16 and may be passed

rearwardly and downwardly thereof to their proper bearings, after which the follower 24 may be moved rearwardly to correspondingly move the adjacent end of the reel-shaft and
 5 hold it against displacement. Each of the reels employed in this construction consists of a squared central portion 30, having cylindrical ends 31 and 32 forming bearings. At one extremity of the shaft is fixed a sprocket-
 10 wheel 33 for a purpose to be presently explained, and between this sprocket-wheel and the squared portion 30 and lying against the end of the square portion is a disk 34, having pins 35. A similar disk 36 is disposed loosely
 15 upon the opposite end of the shaft and has inwardly-directed pins 37. In practice the roll of carpet or other fabric is placed upon the squared portion 30 of the reel-shaft, with the pins 35 entering between the convolutions
 20 of the fabric. The disk 36 is then put in place, with the pins 37 also entering between the convolutions of the fabric, and a clamping-nut 39 is screwed up against this disk. The reel is then disposed in the bearings in the
 25 rack with that end of the shaft carrying the sprocket lying in the bearing 20, the sprocket lying in a recess in the upright 11 behind the plate 17.

When it is desired to show a piece of carpet upon one of the reels, the end of the carpet is drawn from the reel to a sufficient extent to exhibit it, and after the exhibition is at an end the carpet is rerolled upon the reel. In order to thus reroll the carpet, a sprocket
 30 40 is journaled in a suitable recess in the upright 11, adjacent its upper end, and a similar sprocket 41 is mounted upon the crank-shaft 42, adjacent the lower end of the upright, this shaft 42 having an operating-crank 43
 35 and being disposed slidably in its bearing. Mounted upon the sprockets 40 and 41 is a sprocket-chain 45, and between the sides of which chain the sprockets of the several reels lie. Thus if any one of the followers 24 be
 40 moved outwardly the corresponding sprocket 33 will be moved into engagement with the adjacent side of the chain, and by then rotating the shaft 42 said sprocket may be rotated and the reel operated to wind the fabric thereon. In order to thus shift the sprockets
 45 33 individually and separately, a rack 46 is formed upon the upper edge of each follower, with which is engaged the gear-teeth 47 upon the head of a lever 48, pivotally mounted
 50 upon the plate 17. To the outer end of each lever 48 is attached a cord 49, which extends downwardly to a longitudinal slot in the upright 11 and then over a guide-pulley and through an opening in the front of the rack.
 55 Thus by drawing upon the proper cord the follower may be moved to engage the sprocket of its reel with the operating-chain. When the cord 49 is released, the weight of the follower will cause it to assume its normal position.
 60 65

In order to guide the unrolled carpet to the reel and from the reel, two spaced guide-roll-

ers 55 are rotatably mounted in arms 56, which are pivoted to the inner faces of the uprights 10 and 11, these arms when in their
 70 operative position extending outward beyond the outer face of the upright and lying upon the upper faces of the cross-pieces 14, with their inner ends beneath a spring-clip 58 upon the inner face of each upright. The carpet
 75 is so placed upon the reels that it will unroll from the rear sides thereof, and the free ends of the carpet are brought under the rolls and then outwardly and downwardly between the
 80 rollers 55, as shown in dotted lines in Fig. 2. When the elevator is employed, as herein-after described, the clips 58 are pressed inwardly, and the arms 56 are moved upon their
 85 pivots to fold them inwardly between the uprights. This elevator comprises side sills 60, connected at their front ends by means of a cross-piece 61. These sills have plates 62
 90 fixed to their outer faces and at their rear ends and have rollers 63 upon their inner faces at their rear extremities. These sills are disposed against the outer faces of the
 95 uprights and with the rollers 63 against the rear faces thereof, and upon the rear ends of the sills are fixed the ends of a depending U-shaped frame 64, which lies snugly against
 100 the front of the uprights. The sill 60, at one side, comprises two elements 65 and 66, which are separated by an interspace, the end of the frame 64 to which they are attached being cut away between their points of attachment, as shown in Fig. 7 of the drawings, and
 105 for a purpose which will be presently explained. Upon the sills are disposed stop-pins 67. Eyes 68 are secured to the inner ends of the sills, and to these hooks are connected ropes 69, passing upwardly and over
 110 pulleys 70, journaled in the tops of the uprights, and then downwardly along the backs of the uprights to a windlass 71. Thus by operation of the windlass 71 the elevator may be raised and lowered. A covering-board 72 is
 115 secured upon the front face of the upright 11 to cover the recesses therein when the elevator is not in use.

In practice a reel of carpet is placed upon
 120 the elevator, with the shaft thereof behind the pins 67 to prevent the reel from rolling outwardly, and the windlass is then operated to raise the load, the cover 72 having been previously removed. A spring-catch 73 is
 125 fixed to each sill of the elevator and is adapted to enter a corresponding recess 74 in the adjacent upright when the upper surfaces of the reel-sills are in alinement with the slots 16 and the coinciding slots 18 and 26, it being
 130 understood that at this time the proper cord 49 is drawn to move the follower 24 to open the bearing that is to receive one end of the reel. The catches 73 spring into and out of the notches 74 as the elevator is raised, and when the elevator has reached the desired point the reel is rolled from the elevator and, with its bearing portions, into the said slots. To insure the proper placing of the reel, the

elements 65 and 66 are disposed to receive the sprocket of the reel between them, the disk 34 lying upon the inner face of the opposite sill.

5 During the placing and displacing of the reels it is of course necessary to move the sprocket-chain 45 from its normal position, and to permit this the sprocket 40 is mounted upon a shaft 80, which is slidably mounted
10 in bearings in the upright 11. With the outer end of this shaft 80 is pivotally connected the end of a T-lever 81, which is fulcrumed in a slot in the upright and with the extremities of the head of which are connected rods 82
15 and 83, leading to a pivoted block 84 adjacent the lower end of the upright 11. This block has a recess 85 in one end, in which is entered the slotted end of a handle 86, adapted for reciprocation in the slot 85 and held
20 against total displacement by a pin 87. When this handle is pushed inwardly, it serves to rock the block 84, and thus to reciprocate the shaft 80; but when the handle is drawn outwardly to its limit it may be folded upon the
25 pin 87 to lie in a slot 88 in the upright. As above described, the shaft 42 is slidably mounted and may be reciprocated by means of a crank 43, and thus by operating said crank and the handle 86 the sprockets 40 and
30 41 may be moved to the positions shown in dotted lines in Fig. 3 and to correspondingly move the chain, so that the reels may be applied or removed, as desired.

As above intimated, the arms 56 are folded
35 out of the way before the elevator is used, and after the reels have been applied the elevator may be disconnected and the guide-rollers moved to their operative positions.

What is claimed is—

40 1. In a display-rack, the combination with a plurality of reels and means for rotating them, of separate means for moving the reels successively and simultaneously into and out of operative relation to the rotating means,
45 and means for moving the rotating means into and out of position for engagement by the reels.

2. In a display-rack, the combination with a plurality of reels and a common means for
50 rotating them, of separate means for moving the reels successively and simultaneously into and out of operative relation to the rotating means, and means for moving the rotating
55 means into and out of position for engagement by the reels.

3. In a display-rack, the combination with a plurality of reels, each having a sprocket, of a sprocket-chain adapted to rotate the sprockets of the reels, means for moving the
60 chain into and out of alinement with the sprockets and means for moving the reels with their sprockets into and out of engagement with the chain.

4. In a display-rack, the combination with a plurality of reels having rotating sprockets
65 lying in a common plane, of a sprocket-chain encircling the sprockets and movable in the

plane of the latter, and means for individually engaging the sprockets with the chain.

5. A display-rack comprising uprights and
70 cross-pieces, bearings in the uprights, reels having shafts journaled in said bearings, one end of each shaft being adapted for lateral movement in its bearing, a sprocket carried by the movable end of each shaft, a chain en-
75 circling the sprockets of the several shafts, and means for moving the shafts individually to engage their sprockets with the chain.

6. In a display-rack, the combination with uprights having rearwardly-extending slots
80 therein, of reels journaled in said slots, sprockets carried by the reels and lying in a common plane, a chain encircling the sprockets and adapted for engagement thereby for rotation, and means for moving the chain lat-
85 erally to permit the outward displacement of the reels.

7. In a display-rack, the combination with uprights having bearings therein, of reels adapted to lie in said bearings and adapted
90 for movement into and out of the bearings, means for rotating the reels, said means lying in the path of outward movement of the reels, and means for moving the rotating means from
95 the paths of the reels, to permit their introduction and removal with respect to the bearings.

8. In a display-rack, the combination with uprights having bearings therein, of reels journaled in said bearings and having each
100 a sprocket-wheel lying in a common vertical plane, shafts journaled in one of the uprights and adapted for rotatable and slidable movement therein, sprockets upon the shafts, a chain upon the last-named sprockets, means
105 for moving the reel-sprockets into and out of engagement with the chain, and means for moving the sprocket-shafts to move the chain into and out of the plane of the reel-sprockets.

9. In a display-rack, the combination with
110 uprights having bearings therein, of reels journaled in the bearings, sprockets carried by the reels and lying in a common plane, shafts mounted in one of the uprights and adapted for rotatable and longitudinal move-
115 ment therein, sprockets carried by said shaft, a chain upon the sprockets encircling the reel-sprockets, a crank carried by one of the shafts through the medium of which the sprocket may be rotated, and drawn longitu-
120 dinally to remove the adjacent portions of the chain from the plane of the reel-sprockets, a lever connected with the second shaft, and means for operating said lever to move
125 its shaft longitudinally and draw the adjacent end of the chain from the plane of the reel-sprocket.

10. The combination with a display-rack having bearings provided with communicat-
130 ing slots extending through the fronts of the uprights, of an elevator slidably connected with the uprights and comprising sills adapted to receive a reel and to aline with said slots to permit the passage of the reel thereto.

11. In a display-rack, the combination with
uprights, having bearings therein and com-
municating slots adapted to receive reels, of
an elevator slidably connected with the up-
rights and comprising sills adapted to receive
5 a reel and to aline with the slots to permit
the passage of the reel through the slots and
to the bearings, and means carried by the ele-
vator for engagement with the uprights to
10 hold the elevator at its different discharge-
points.

12. The combination with uprights having

bearings therein, and communicating slots
adapted to receive reels, of plates adjacent
the bearings of one upright and adapted to 15
open and close the slots thereof and simulta-
neously move the adjacent ends of the reels.

In testimony that I claim the foregoing as
my own I have hereto affixed my signature in
the presence of two witnesses.

WILLIAM ELEY.

Witnesses:

R. H. MORGAN,
L. W. WILLIAMS.